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The Chemical Security Anti-Terrorism Act of 2006 establishes a needed, though limited regulatory framework for the Department of Homeland Security (DHS) to set strong national security standards for chemical facilities.

However, while it covers the manufacture and use of acutely hazardous chemicals and processes, it is unclear whether DHS must evaluate the transportation of these materials as well. It appears to exempt drinking water facilities that, based on a recent survey the Center for American Progress conducted of chemical facilities nationwide, offer the clearest opportunity to reduce existing terrorism risk to millions of Americans.

Unless we take a comprehensive approach to chemical security planning, we will continue to provide terrorists with too many targets of opportunity across the country.

We are approaching the fifth anniversary of September 11. As attacks in London and Madrid and recent terror plots in Toronto and Miami dramatically demonstrate, we face an on-going threat of terrorism to our society and economy, specifically to critical infrastructure in major metropolitan areas where most of our citizens live, work and congregate. This also happens to be where many of our highest risk chemical facilities are located.

Likewise, much of the transportation of hazardous material to and from chemical facilities occurs on freight rail lines that pass through urban centers. One such line is adjacent to the U.S. Capitol, a target that the 9/11 perpetrators intended to strike. Why should we give al Qaeda another opportunity using a 90-ton HAZMAT rail car as a weapon?

Clearly, we cannot protect everything. We cannot reduce the terrorism risk to zero. The United States is a target-rich environment. But we have to set priorities, something the Department of Homeland Security has yet to effectively do. This legislation can help. Chemical security should be a critical infrastructure priority. But for the legislation to have its intended impact, risk assessments and security plans must take into account the manufacture, use, physical security, storage and transportation of substances that, if released due to a deliberate attack, can kill tens of thousands of Americans.

This is not an arbitrary judgment. It is specific to the threat we face – that terrorists are most likely to attack where they can kill as many innocent civilians as possible and have the most significant economic and political impact on our country.

There is a belief that markets can effectively handle terrorism risk, but the experience of the past five years challenges that assumption. We are not adapting fast enough. This is an urgent need for action because we are going to be attacked again. It is not a question of if, but only when and where.

Too many facility operators do not believe that their plant is going to be attacked. The instinct is not to invest in greater security – markets frown on overhead – and perhaps gain a short-term competitive advantage. They also do not control what occurs beyond their fences. We need to take a system-wide approach and ensure that everyone is on a level playing field.

A risk-based chemical security strategy should be integrated and multi-dimensional. It requires better physical security and risk mitigation. But they are not sufficient. We must also pursue risk elimination. Where more secure alternatives – whether technologies, processes or other steps – already exist, we have an obligation to remove as many chemical facilities and communities as possible from the terrorism target list.

Some critics say that the promotion of secure alternatives is just redressing the environmental concept of inherently safer technology (IST) in homeland security clothing. The Secretary of Homeland Security, in remarks to the American Chemistry Council in March, said that IST has little to do with security. He is wrong. This is about security. Who says so? The Association of American Railroads has endorsed this as a necessary option. It cannot be done in every case, but should be part of a viable strategy.

The Center for American Progress survey shows the potential of this approach. The survey involved a review of 1,800 facilities deregistered from the Risk Management Planning (RMP) program, a Congressionally-mandated and EPA-managed initiative which began in 1990 to improve disaster assessments, mitigation and response. Among the key findings from our survey:

- 284 facilities in 47 states have dramatically reduced the danger of a chemical release into nearby communities by switching to less acutely hazardous processes or chemicals or moving to safer locations. This action reduces or eliminates a clear terrorism threat to at least 38 million people. For example, the Mill Creek Wastewater Treatment Plant in Cincinnati, Ohio eliminated the danger of an off-site chlorine gas release to an area encompassing 860,000 residents by switching to liquid bleach for disinfection. Likewise, the Water Pollution Control Facility in Wilmington, Delaware made a similar change, eliminating the danger to 560,000 nearby residents. The Photocircuits Corporation of Glen Cove, N.Y. switched from chlorine gas to sodium chlorate in its manufacturing process, eliminating a danger zone that encompassed 21,000 people.
- Change can be accomplished economically. Of respondents that provided cost estimates, 87 percent spent less than $1 million and roughly half reported spending less than $100,000 to convert.
- Our survey revealed that alternatives already exist in a range of applications, particularly drinking water and wastewater facilities. Change involved the adoption of common technologies, not new innovation, such as liquid bleach or ultraviolet radiation. Other examples include the use of aqueous rather than anhydrous ammonia or solid rather than anhydrous sulfur dioxide.
- The most common reasons cited for making changes included the security and safety of employees and nearby communities, as well as regulatory incentives and business opportunities. These facilities also saw opportunities to cut a variety of costs, requiring fewer physical security measures and hazardous material safety devices, making these operations more efficient and productive. This also took a significant burden off surrounding communities in terms of disaster planning and response.

While the survey demonstrated that effective change can take place, it also revealed the limitations in a purely market-driven response. For example, of the 284 facilities that adopted some form of inherently safer practices, only 10 percent represented the highest risk facilities – those that put 100,000 or more people at potential risk. At this pace, it would take another 45 years to eliminate this vulnerability. We do not have that much time to act.

There is also a fairness issue by relying on ad hoc local action rather than a national approach. Many communities where change is taking place are also vital transportation hubs – Wilmington, Delaware; Jacksonville, Florida; Indianapolis, Indiana; Baltimore, Maryland; Omaha, Nebraska; Cleveland and Cincinnati, Ohio; and Philadelphia, Pennsylvania. They have taken the initiative to eliminate threats to their people, but potentially remain at risk because hazardous materials are still transported through these cities to neighboring states and communities that have not taken similar action.

With this in mind, what then is the proper role of government to help promote change within communities and the private sector? As a security analyst, what is most important is to accelerate the pace of change and measurably reduce the risk of catastrophic terrorism to our society and economy. We cannot afford a strategic double-standard. When it comes to our extraordinary military, we are constantly exploring how to invest in and employ new technologies that make us stronger. Why is it that we would not take the same approach to invest in and employ secure alternatives to make us safer here at home? I think our citizens and our first responders deserve the same consideration that we rightly give our men and women in the military.

Voluntary actions should be encouraged, but we need a comprehensive national approach, not a series of disconnected local or regional actions. Government has the a responsibility to set strong safety and security standards, identify better alternatives, require needed security assessments and reporting, and create incentives for the private sector and cities and states to take action.

To give one example of how this might work, consider the approximately 3,000 drinking water and wastewater treatment plants across the country that still use chlorine gas. DHS should identify the manufacture, transportation and use of chlorine gas for disinfection at high priority facilities in populated areas as posing an unacceptable risk to our society. But local officials and facility operators should determine how to best eliminate this risk, whether to convert to the use of liquid bleach, ultraviolet radiation or other process. Water treatment facilities represent an excellent starting point to implement a genuine risk-based approach to chemical security. This bill should not exempt these operations from better security planning.

What needs to be done?

- The Department of Homeland Security should be granted authority to regulate chemical security and promulgate strong national standards to improve chemical security, including the manufacture, use, physical security, storage and transportation of acutely hazardous materials. Particular emphasis should be given to the proximity of these acutely hazardous materials to major population centers across the United States that present the highest risk if successfully attacked by terrorists.
- Chemical facilities should be required to do comprehensive annual security risk assessments and report those findings to DHS and EPA. These risk assessments should include a thorough evaluation of less acutely hazardous alternatives. In the case of publicly traded companies, an assessment of risk and summary of actions taken should also be reported to shareholders.
- DHS should embrace risk elimination as an essential tool to reduce the number of Americans who are at risk from a chemical release due to a terrorist attack. DHS should establish a Center of Excellence to promote technological solutions that reduce our vulnerability to catastrophic terrorism.

- The federal government should not preempt states that want to establish stronger security standards. The federal government established learning standards under No Child Left Behind. It did not tell any state not to offer advanced placement courses. Federal action should promote security floors, not ceilings.
- The federal government should create a variety of incentives to promote change. This might include a mix of targeted grants, loans and tax credits. Rewards for facilities that meet or exceed stronger national standards should also be explored, including caps on liability for facilities that go beyond physical security and adopt secure alternatives as well.

The course that we have followed in the first five years of the war on terror cannot be sustained indefinitely. Over time, our national security strategy must place greater emphasis on homeland security. As good as our intelligence and police forces may be, they cannot be expected to anticipate and intercept every attack.

We must narrow the potential for terrorists to successfully attack us here. The security of the United States should not be subject to the lowest common denominator. Business as usual is no longer an option. Only through a comprehensive approach to chemical security will we achieve the objectives of this legislation.